

V.—Notes on the genus *Quenstedtia**. By JOHN LYCETT, Esq.

THIS genus of Lamellibranchiate Conchifera, described in the Great Oolite Monograph of the Palæontographical Society, was founded upon two shells figured in Prof. Phillips's 'Geology of Yorkshire,' under the names of *Pullastra oblita* and *Psammobia levigata*, the former of them being chosen as the type of the genus.

Of *Pullastra oblita*, I have succeeded in clearing and exposing the hinge of each of the valves in many instances, and am perfectly conversant with its characters, which will be found correctly described in the Monograph alluded to. The siphonal, pallial and muscular scars were ascertained in a cast from the Yorkshire Dogger, and upon the characters supplied by these satisfactory materials the genus was founded. Specimens with the test preserved, and which admit of the hinge characters being exposed, are obtained in the upper portion of the Inferior Oolite of the Cotteswolds; a single young example of the species only having been afforded by the Great Oolite of Minchinhampton. In the Great Oolite Monograph it was stated to be allied to *Psammobia*, but distinguished from it by the dental characters of the hinge, and by the absence of an elevated nymphal plate to sustain the ligament. The general resemblance which the aspect of this shell presents to the *Mactromya mactroides* of Agassiz had not been overlooked, but as the figures of *Mactromya mactroides*, in the 'Etudes critiques' of that author, consist for the most part only of casts, which afford no information respecting the hinge, it was considered inadvisable to allude to the probable identity, as it was certain that *Quenstedtia* possessed no affinity either with *Mactra* or with the family of the *Myadæ*, and the shells of Phillips had priority as species. This supposed identity of *Quenstedtia oblita* with the *Mactromya mactroides* of Agassiz, has recently been fully confirmed in the publication by M. Terquem of an elaborate work, with plates, entitled, 'Observations sur les Etudes critiques des Mollusques fossiles, comprenant la Monographie des Myaires de M. Agassiz.' In this work the author has figured and described the *Mactromya mactroides*; the figures representing the shell and cast of the interior under different aspects: upon the same plate (No. 5) are placed figures of the recent *Psammobia vespertina* for comparison; the conclusion drawn by the author from this comparison is that *Mactromya mactroides* is a *Psammobia*. It will be observed that in these figures, the author has altogether omitted one of the most essential points of comparison necessary to establish a

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generic identity, the hinges not being exhibited; he has, however, given casts of the interiors of the valves in both the shells, including the siphonal, pallial and muscular scars, but these afford no information respecting the hinge. The author arranges *Mactromya mactroides* with *M. tenuis*, *M. brevis* and *M. litterata*, all of which group he believes to be *Psammobia*; he also states that the group has a small cardinal tooth in each valve, which he regards as an abnormal variation from the dentition of *Psammobia vespertina*, which has two teeth in each valve. As the author does not state expressly that he has cleared and exposed the hinge in each valve of *Mactromya mactroides*, and as he is careful to record similar facts relating to other genera, I am led to infer that his knowledge of the hinge in the shell in question has been derived either from the partial exposure exhibited by the valves when in contact, or from other imperfect evidence. However this may be, it is certain that the hinge is altogether unlike that of *Psammobia*: to avoid the trouble of reference, I subjoin the hinge characters of the fossil shell:—

QUENSTEDTIA. *Hinge in the left valve consisting of one obtuse, oblong and transverse tooth, slightly compressed from above, situated beneath the umbo and received into a corresponding oblong pit in the hinge-plate of the opposite valve.*

There is therefore no tooth in the right valve and consequently no pit in the left valve. This kind of hinge, which so nearly resembles that of the fossil genus *Myoconcha*, is altogether distinct from that of *Psammobia*, with its two grooved, diverging hinge-teeth in each valve.

The ligament is received into a narrow, lengthened and deep area posterior to the umbones;—the shell is therefore destitute of the elevated nymphal plate of Psammobia.

The siphonal flexure, as may be observed in the figure given by M. Terquem, is less considerable than in *Psammobia*, and, unlike that genus, it is united posteriorly to the pallial line *only at its extremity*, so that with the pallial line it forms a narrow tongue, the upper and lower borders of which are limited by the gradual convergence of the two lines: in *Psammobia* the siphonal and pallial lines are united in a position nearly vertical beneath the umbo, and proceed posteriorly united into a single line. The aggregate of these characters, it must be admitted, fully justifies the separation of *Quenstedtia* from *Psammobia*; and it yet remains to be demonstrated that true *Psammobia* are found in any rocks older than the Tertiary system, none of the so-called Jurassic *Psammobia* having hitherto exhibited the characters of that genus free from ambiguity.